

Application No. 10/647,156
Attorney Docket No. 01-1387
Response to Office Action dated September 11, 2008

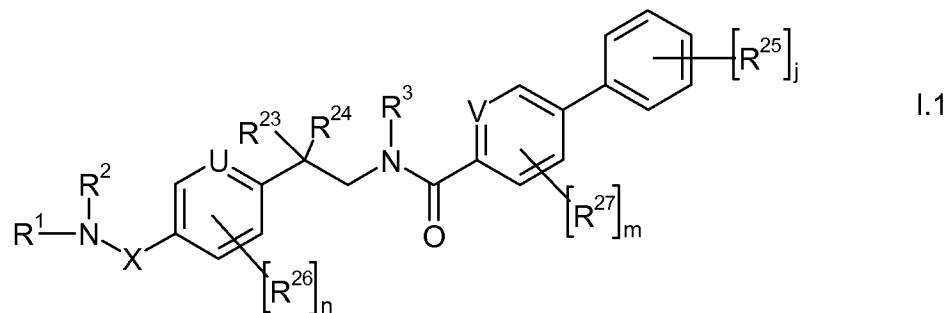
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-44 (Cancelled)

45. (Currently amended) A carboxamide compound of general formula I.1



wherein

U, V denote CH ,

R²³, R²⁴ independently of one another denote H, F or methyl,

R²⁵, R²⁶, R²⁷ independently of one another have one of the meanings given for R²⁰ or in the case of a phenyl group also simply denote nitro, while residues R²⁵, R²⁶, R²⁷ occurring several times may have

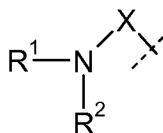
identical or different meanings, and

j is 0, 1, 2, 3 or 4 and

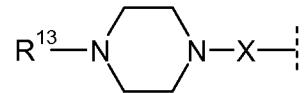
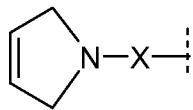
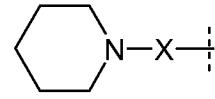
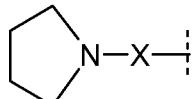
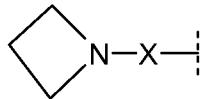
m, n independently of one another represent 0, 1 or 2.

R^1, R^2 independently of one another denote H, a C₁₋₈-alkyl or C₃₋₇-cycloalkyl group optionally substituted by the group R¹¹ or a phenyl group optionally mono- or polysubstituted by the group R¹² and/or monosubstituted by nitro, or

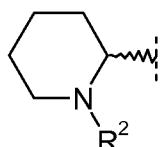
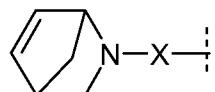
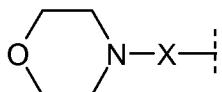
the group



is defined according to one of the following partial formulae



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wherein one or more H atoms of the heterocycle formed by the group $R^1R^2N^-$ may be replaced by R^{14} ;

R^3 denotes H, methyl or ethyl,

X denotes a single bond or a C_{1-8} -alkylene bridge wherein

one or two C atoms independently of one another may be substituted by a hydroxy, ω -hydroxy- C_{1-3} -alkyl-, ω -(C_{1-3} -alkoxy)- C_{1-3} -alkyl- and/or C_{1-3} -alkoxy group and/or in each case with one or two identical or different C_{1-6} -alkyl groups, and/or

Cy denotes a carbo- or heterocyclic group selected from one of the following meanings

- a saturated 3- to 7-membered carbocyclic group,
- an unsaturated 5- to 7-membered carbocyclic group,
- a phenyl group,

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- a saturated 4- to 7-membered or unsaturated 5- to 7-membered heterocyclic group with an N, O or S atom as heteroatom,
- a saturated or unsaturated 5- to 7-membered heterocyclic group with two or more N atoms or with one or two N atoms and an O or S atom as heteroatoms,
- an aromatic heterocyclic 5- or 6-membered group with one or more identical or different heteroatoms selected from N, O and/or S,

wherein the 4, 5, 6 or 7-membered groups may be connected via two common, adjacent C atoms, fused with a phenyl or pyridine ring, and

wherein the 5-, 6- or 7-membered groups one or two non-adjacent -CH₂- groups may be replaced by a -CO-, -C(=CH₂)-, -(SO)- or -(SO₂)-group, and

wherein the saturated 6- or 7-membered groups may also be present as bridged ring systems with an imino, N-(C₁₋₄-alkyl)-imino, methylene, C₁₋₄-alkyl-methylene or di-(C₁₋₄-alkyl)-methylene bridge, and

wherein the cyclic groups may be mono- or polysubstituted at one or more C atoms with R²⁰, and in the case of a phenyl group also additionally monosubstituted by nitro, and/or substituted by R²¹ at one or more N atoms,

R¹¹ denotes R¹⁵-O-, R¹⁵-O-CO-, R¹⁶R¹⁷N-, R¹⁸R¹⁹N-CO- or Cy-,

R¹² has one of the meanings given for R²⁰,

R¹³ denotes H, C₁₋₆-alkyl or C₁₋₃-alkylcarbonyl;

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R^{14} denotes halogen, C_{1-6} -alkyl, R^{15} -O-, R^{15} -O-CO-, $R^{16}R^{17}N$ -, $R^{18}R^{19}N$ -CO-, R^{15} -O- C_{1-3} -alkyl-, R^{15} -O-CO- C_{1-3} -alkyl-, $R^{16}R^{17}N$ - C_{1-3} -alkyl-, $R^{18}R^{19}N$ -CO- C_{1-3} -alkyl- or Cy- C_{1-3} -alkyl-,

R^{15} denotes H, C_{1-4} -alkyl, C_{3-7} -cycloalkyl, C_{3-7} -cycloalkyl- C_{1-3} -alkyl-, phenyl, phenyl- C_{1-3} -alkyl- or pyridinyl,

R^{16} denotes H, C_{1-6} -alkyl, C_{3-7} -cycloalkyl, C_{3-7} -cycloalkyl- C_{1-3} -alkyl-, C_{4-7} -cycloalkenyl, C_{4-7} -cycloalkenyl- C_{1-3} -alkyl-, ω -hydroxy- C_{2-3} -alkyl-, ω -(C_{1-3} -alkoxy)- C_{2-3} -alkyl-, amino- C_{1-6} -alkyl-, C_{1-3} -alkyl-amino- C_{1-6} -alkyl- or di-(C_{1-3} -alkyl)-amino- C_{1-6} -alkyl-,

R^{17} has one of the meanings given for R^{16} or denotes phenyl, phenyl- C_{1-3} -alkyl-, pyridinyl, dioxolan-2-yl, C_{1-3} -alkylcarbonyl, hydroxycarbonyl- C_{1-3} -alkyl-, C_{1-4} -alkoxycarbonyl, C_{1-3} -alkylcarbonylamino- C_{2-3} -alkyl-, C_{1-3} -alkylsulphonyl- or C_{1-3} -alkylsulphonylamino- C_{2-3} -alkyl-,

R^{18}, R^{19} independently of one another denote H or C_{1-6} -alkyl,

R^{20} denotes halogen, hydroxy, cyano, C_{1-4} -alkyl, C_{3-7} -cycloalkyl, hydroxy- C_{1-3} -alkyl, R^{22} - C_{1-3} -alkyl- or has one of the meanings given for R^{22} ,

R^{21} denotes C_{1-3} -alkyl, ω -hydroxy- C_{2-3} -alkyl-, phenyl, phenyl- C_{1-3} -alkyl-, C_{1-3} -alkyl-carbonyl, carboxy, C_{1-4} -alkoxy-carbonyl, C_{1-3} -alkylsulphonyl, phenylcarbonyl or phenyl- C_{1-3} -alkyl-carbonyl,

R^{22} denotes pyridinyl, phenyl, phenyl- C_{1-3} -alkoxy-, C_{1-3} -alkoxy, C_{1-3} -alkylthio, carboxy, H-CO-, C_{1-3} -alkylcarbonyl, C_{1-4} -alkoxycarbonyl, aminocarbonyl, C_{1-3} -alkylaminocarbonyl, di-(C_{1-3} -alkyl)-aminocarbonyl,

C₁₋₃-alkyl-sulphonyl-, C₁₋₃-alkyl-sulphinyl-, C₁₋₃-alkyl-sulphonylamino-, amino, C₁₋₃-alkylamino-, di-(C₁₋₃-alkyl)-amino-, phenyl-C₁₋₃-alkylamino- or N-(C₁₋₃-alkyl)-phenyl-C₁₋₃-alkylamino-, acetylamino-, propionylamino-, phenylcarbonyl, phenylcarbonylamino-, phenylcarbonylmethylamino-, hydroxyalkylaminocarbonyl, (4-morpholinyl)carbonyl, (1-pyrrolidinyl)-carbonyl, (1-piperidinyl)carbonyl, (hexahydro-1-azepinyl)carbonyl, (4-methyl-1-piperazinyl)carbonyl, methylenedioxy-, aminocarbonylamino- or alkylaminocarbonylamino-,

while in the groups and residues X, R¹ to R³ and R¹¹, R¹² and R¹⁴ to R²² in each case one or more C atoms may be mono- or polysubstituted by F and/or in each case one or two C atoms independently of one another may be monosubstituted by Cl or Br, and/or in each case one or more phenyl rings independently of one another additionally have one, two or three substituents selected from the group F, Cl, Br, I, C₁₋₄-alkyl, C₁₋₄-alkoxy, difluoromethyl, trifluoromethyl, hydroxy, amino, C₁₋₃-alkylamino-, di-(C₁₋₃-alkyl)-amino-, acetylamino-, aminocarbonyl, CN, difluoromethoxy, trifluoromethoxy, amino-C₁₋₃-alkyl-, C₁₋₃-alkylamino-C₁₋₃-alkyl- and di-(C₁₋₃-alkyl)-amino-C₁₋₃-alkyl- and/or may be monosubstituted by nitro, and

the and the pharmaceutically acceptable salts thereof.

46. (Previously presented) The carboxamide compounds according to claim 45, wherein R¹, R² independently of one another denote H, C₁₋₆-alkyl, C₃₋₇-cycloalkyl, C₃₋₇-cycloalkyl-C₁₋₃-alkyl-, ω -hydroxy-C₂₋₃-alkyl, ω -(C₁₋₃-alkoxy)-C₂₋₃-alkyl-, C₁₋₄-alkoxy-carbonyl-C₁₋₃-alkyl, amino-C₂₋₄-alkyl-, C₁₋₃-alkyl-amino-C₂₋₄-alkyl- or di-(C₁₋₃-alkyl)-amino-C₂₋₄-alkyl-, phenyl or phenyl-C₁₋₃-alkyl-,

while in the above mentioned groups and residues one or more C

atoms may be mono- or polysubstituted by F and/or one or two C atoms independently of one another may be monosubstituted by Cl or Br and

the phenyl group may be mono- or polysubstituted by the group R¹² defined in claim 45 and/or monosubstituted by nitro.

47. (Previously presented) The carboxamide compounds according to claim 45, wherein R¹, R² independently of one another denote C₁₋₄-alkyl, C₃₋₇-cycloalkyl, C₃₋₇-cycloalkyl-C₁₋₃-alkyl-, ω-hydroxy-C₂₋₃-alkyl-, ω-(C₁₋₃-alkoxy)-C₂₋₃-alkyl-, C₁₋₄-alkoxy-carbonyl-C₁₋₃-alkyl-, while one of the groups R¹, R² may also denote H.
48. (Previously presented) The carboxamide compounds according to claim 45, wherein R¹, R² form with the N atom of the group R¹R²N- a pyrrolidine, piperidine or 2,5-dihydro-1H-pyrrole ring, wherein one or more H atoms may be replaced by R¹⁴ and wherein R¹⁴ is defined as in claim 45.
49. (Previously presented) The carboxamide compounds according to claim 45, wherein R¹⁴ is selected from the group consisting of halogen, C₁₋₄-alkyl, hydroxy, C₁₋₄-alkoxy, C₁₋₄-alkoxy-C₁₋₃-alkyl-, hydroxy-C₁₋₃-alkyl, C₁₋₄-alkoxy-carbonyl, C₁₋₄-alkoxy-carbonyl-C₁₋₃-alkyl-, C₁₋₄-alkoxy-carbonylamino-, C₁₋₄-alkoxy-carbonylamino-C₁₋₃-alkyl-, amino, (C₁₋₄-alkyl)-amino-, di-(C₁₋₄-alkyl)-amino-.
50. (Previously presented) The carboxamide compounds according to claim 45, wherein X denotes a single bond or an alkylene bridge selected from methylene, 1,2-ethylene, 1,3-propylene and 1,4-

butylene,

wherein one or two C atoms independently of one another may be substituted with a hydroxy, ω -hydroxy-C₁₋₃-alkyl, ω -(C₁₋₃-alkoxy)-C₁₋₃-alkyl- and/or C₁₋₃-alkoxy group and/or in each case may be substituted with one or two identical or different C₁₋₄-alkyl groups, and

in each case one or more C atoms may be mono- or polysubstituted by F and/or in each case one or two C atoms independently of one another may be monosubstituted by Cl or Br.

51. (Previously presented) The carboxamide compounds according to claim 45, wherein X is -CH₂-, -CH(CH₃)- or -C(CH₃)₂-.
52. (Previously presented) The carboxamide compounds according to claim 45, wherein R³ is H or methyl.
- 53-55. Cancelled
56. (Previously presented) Carboxamide compounds according to claim 45, wherein

R²⁵,
R²⁶, R²⁷ independently of one another denote F, Cl, Br, I, OH, cyano, methyl, difluoromethyl, trifluoromethyl, ethyl, n-propyl, iso-propyl, methoxy, difluoromethoxy, trifluoromethoxy, ethoxy, n-propoxy or iso-propoxy, in the case of a substitution of a phenyl group they may also denote nitro, while repeatedly occurring groups R²⁵, R²⁶, R²⁷ may have identical or different meanings, and

m, n independently of one another are 0 or 1.

57. (Previously presented) The carboxamide compounds according to claim 45, wherein the group R¹¹ is selected from C₁₋₆-cycloalkyl, hydroxy, C₁₋₄-alkoxy, amino, C₁₋₄-alkyl-amino- and di-(C₁₋₄-alkyl)-amino-.
58. (Previously presented) The carboxamide compounds according to claim 45, wherein the group R²⁰ is selected from halogen, hydroxy, cyano, C₁₋₄-alkyl, C₃₋₇-cycloalkyl and hydroxy-C₁₋₃-alkyl.
59. (Previously presented) The carboxamide compounds according to claim 45, wherein the group R²⁰ is selected from among fluorine, chlorine, bromine, CF₃, C₁₋₄-alkyl and C₁₋₄-alkoxy.
60. (Currently amended) Carboxamide compounds according to claim 45 selected from among the formulae:
 - (1) 4'-chloro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
 - (2) 4'-chloro-biphenyl-4-carboxylic acid-[2-(4-diethylaminomethyl-phenyl)-ethyl]-amide
 - (3) 4'-chloro-biphenyl-4-carboxylic acid-[2-(4-piperidin-1-ylmethyl-phenyl)-ethyl]-amide
 - (4) 4'-methoxy-biphenyl-4-carboxylic acid-[2-(4-

diethylaminomethyl-phenyl)-ethyl]-amide

- (5) 4'-chloro-biphenyl-4-carboxylic acid-[2-(4-diethylaminomethyl-phenyl)-ethyl]-methyl-amide
- (6) 4'-chloro-biphenyl-4-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-propyl]-amide
- (7) 4'-chloro-biphenyl-4-carboxylic acid-[2-(3-methoxy-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (8) —
- (9) 4'-chloro-biphenyl-4-carboxylic acid-[2-methyl-2-(4-pyrrolidin-1-ylmethyl-phenyl)-propyl]-amide
- (10) 4 benzyl ~~N [2 (4 pyrrolidin 1 ylmethyl phenyl) ethyl]~~-benzamide
- (11) 4'-chloro-biphenyl-4-carboxylic acid-[2-(2-fluoro-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (12) 4'-chloro-biphenyl-4-carboxylic acid [2-(3-bromo-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (13) 4'-chloro-biphenyl-4-carboxylic acid [2-(3-methyl-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (14) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(1-ethyl-piperidin-2-yl)-phenyl]-ethyl}-amide
- (15) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(4-acetyl-piperazin-1-ylmethyl)-phenyl]-ethyl}-amide
- (16) 4'-chloro-biphenyl-4-carboxylic acid (2-{4-[(diisopropylamino)methyl]-phenyl}-ethyl)-amide
- (17) 4'-chloro-biphenyl-4-carboxylic acid {2-[3-bromo-4-(2,5-dihydro-pyrrol-1-ylmethyl)-phenyl]-ethyl}-amide

- (18) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(2-dimethylaminomethyl-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (19) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(3-dimethylamino-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (20) 4'-chloro-biphenyl-4-carboxylic acid [2-(2-bromo-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (21) 4'-chloro-biphenyl-4-carboxylic acid [2-(6-pyrrolidin-1-ylmethyl-pyridin-3-yl)-ethyl]-amide
- (22) 4'-chloro-biphenyl-4-carboxylic acid [2-(2-nitro-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (23) 2',4'-dichloro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (24) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(3-amino-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (25)
- (26) 4'-chloro-biphenyl-4-carboxylic acid [2-(5-pyrrolidin-1-ylmethyl-pyridin-2-yl)-ethyl]-amide
- (27) 4'-chloro-biphenyl-4-carboxylic acid [2-(3-ethyl-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (28) 4'-bromo-biphenyl-4-carboxylic acid {2-[4-(2,5-dihydro-pyrrol-1-ylmethyl)-phenyl]-ethyl}-amide
- (29) 4'-chloro-biphenyl-4-carboxylic acid [2-(2-methyl-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (30) 4'-bromo-3-fluoro-biphenyl-4-carboxylic acid {2-[3-bromo-4-(2,5-dihydro-pyrrol-1-ylmethyl)-phenyl]-ethyl}-amide

- (31) 4'-chloro-2-fluoro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (32) 4'-ethyl-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (33) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(2-methyl-piperidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (34) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(2-methyl-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (35) 4'-chloro-biphenyl-4-carboxylic acid (2-{4-[(cyclopropylmethyl-amino)-methyl]-phenyl}-ethyl)-amide
- (36) 4' chloro biphenyl 4 carboxylic acid {2 [4 (3,4 dihydro 1H isoquinolin 2 ylmethyl) phenyl] ethyl} amide
- (37) 4'-chloro-biphenyl-4-carboxylic acid [2-(4-{{(2-hydroxy-ethyl)-methyl-amino]-methyl}-phenyl)-ethyl]-amide
- (38) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(2,6-dimethyl-piperidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (39) 4'-chloro-biphenyl-4-carboxylic acid [2-(4-azetidin-1-ylmethyl-phenyl)-ethyl]-amide
- (40) 3,4'-dichloro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (41) 4'-fluoro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (42) 4'-chloro-3-fluoro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (43) 2'-fluoro-4'-chloro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide

- (44) 5-(4-chloro-phenyl)-pyridine-2-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (45) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(2,5-dihydro-pyrrol-1-ylmethyl)-phenyl]-ethyl}-amide
- (46) 4'-bromo-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (47) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(1-pyrrolidin-1-yl-ethyl)-phenyl]-ethyl}-amide

and the pharmaceutically acceptable salts thereof.

61. (Currently amended) The pharmaceutically acceptable salts of the carboxamide compounds according to claim 45.

62. (Cancelled)

63. (Previously presented) A composition comprised of at least one carboxamide compound according to claim 45 further comprised of one or more physiologically acceptable excipients.

64. (Previously presented) A pharmaceutical composition, comprising at least one carboxamide compound according to claim 45 optionally together with one or more inert carriers and/or diluents.

65. (Cancelled)

66. (Previously presented) A method of reducing the body weight and/or prevention of an increase of body weight of a mammal comprised of the administration of a therapeutically effective amount of a carboxamide compound according to claim 45 to a mammal or a pharmaceutically acceptable salt thereof.

67. (Previously presented) Use of at least one carboxamide compound according to claim 45 for preparing a pharmaceutical composition with an MCH-receptor-antagonistic activity.

68. (Cancelled)

69. (Previously presented) A method of treating metabolic disorders and/or eating disorders, obesity comprised of the administration to a patient in need thereof of a pharmaceutically effective amount of a carboxamide compound according to claim 45 or a pharmaceutically acceptable salt thereof.

70. (Previously presented) Method of preventing and/or treating diseases and/or disorders associated with obesity, selected from diabetes, type II diabetes, complications of diabetes selected from diabetic retinopathy, diabetic neuropathy, diabetic nephropathy, insulin resistance, pathological glucose tolerance, encephalorrhagia, cardiac insufficiency, cardiovascular diseases, arteriosclerosis and high blood pressure, arthritis and gonitis, comprised of administering to a patient in need thereof a therapeutically effective amount of a compound according to claim 45 or a pharmaceutically acceptable salt thereof.

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71. (Withdrawn) Method of preventing or treating hyperlipidaemia, cellulitis, fat accumulation, malignant mastocytosis, systemic mastocytosis, emotional disorders, affective disorders, depression, anxiety, sleep disorders, reproductive disorders, sexual disorders, memory disorders, epilepsy, forms of dementia and hormonal disorders comprised of administering to a patient in need thereof therapeutically effective amount of a carboxamide compound according to claim 45 or a pharmaceutically acceptable salt thereof.

72. (Withdrawn) A method of preventing and/or treating micturition disorders, selected from a list consisting of urinary incontinence, hyperactive urinary bladder, urgency, nycturia and enuresis comprised of administering to a patient in need thereof a therapeutically effective amount of a compound according to claim 45 or a pharmaceutically acceptable salt thereof.

73. (Withdrawn) Pharmaceutical compositions, comprised of a first active substance selected from the carboxamide compounds according to claim 1 and a second active substance selected from the group comprised of active substances for the treatment of diabetes, active substances for the treatment of diabetic complications, active substances for the treatment of obesity, other than MCH antagonists, active substances for the treatment of high blood pressure, active substances for the treatment of hyperlipidaemia, including arteriosclerosis, active substances for the treatment of arthritis, active substances for the treatment of anxiety states and active substances for the treatment of depression, optionally together with one or more inert carriers and/or diluents.